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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,559	03/24/2004	Vincent K. Jones	070915B1/QUALP693USA	8004
70797	7590	11/15/2007		
Amin, Turocy & Calvin LLP 1900 E. 9th Street 24th Floor, National City Center Cleveland, OH 44114			EXAMINER TRAN, KHAI	
			ART UNIT 2611	PAPER NUMBER
			NOTIFICATION DATE 11/15/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket1@thepatentattorneys.com  
hholmes@thepatentattorneys.com  
osteuball@thepatentattorneys.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/809,559	<b>Applicant(s)</b> JONES ET AL.	
	<b>Examiner</b> KHAI TRAN	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 14-23 and 25-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-23,25-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/27/2007 has been entered. Claims 14-23, 25-32 are pending in this Office action.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14-15, 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Scheibel et al (U.S. Pat. 6,212,240).

Regarding claim 14, Scheibel discloses a method of wireless communication between a first station and a second station, the method comprising:

at the first station, transmitting data packets to the second station using a first data modulation and a first data rate, wherein the first modulation and the first data rate are predetermined using one or more attributes of the first station and the second station (abstract, Figures 1-3, col. 2 lines 19-44, col. 3 lines 42-47, col. 4 lines 23-49);

at the first station, transmitting acknowledgement packets to the second station in response to data packets received from the second station, using a first acknowledgement modulation and a first acknowledgement rate, wherein the first acknowledgement modulation and the first acknowledgement rate are predetermined using one or more attributes of the first station and the second station (abstract, Figures 1-3, col. 2 lines 19-44, col. 3 lines 42-47, col. 4 lines 23-49);

at the second station, transmitting data packets to the first station using a second data modulation and a second data rate, wherein the first modulation and the first data rate are predetermined using one or more attributes of the first station and the second station (abstract, figures 1-3, col. 2 lines 19-44, col. 3 lines 42-47, col. 4 lines 23-49);  
and

at the second station, transmitting acknowledgement packets to the first station in response to the data packets received from the first station, using a second acknowledgement modulation and a second acknowledgement rate, wherein the first acknowledgement modulation and the first acknowledgement rate are predetermined using one or more attributes of the first station and the second station (abstract, Figures 1-3, col. 2 lines 19-44, col. 3 lines 42-47, col. 4 lines 23-49),

wherein the first data rate is distinct from at least one of the second data rate, the first acknowledgement rate, or the second acknowledgement rate (abstract, Figures 1-3, col. 2 lines 19-44, col. 3 lines 42-47, col. 4 lines 23-49; where elements 101 and 107 of Figure 1 have the same functionality and thus one device being at a certain and the

other at a lower rate is being interpreted as wherein the first data rate is distinct from at least one of the second data rate).

Regarding claim 15, Scheibel further discloses wherein the first data modulation is distinct from at least one of the second data modulation, the first acknowledgement modulation, or the second acknowledgement modulation (abstract, Figures 1-3, col. 3 lines 42-47).

Regarding claim 25, Scheibel in view of Keaney discloses all limitations of claim 25 as analyzed in claim 14 above.

Regarding claim 26, Scheibel in view of Keaney discloses all limitations of claim 26 as analyzed in claim 14 above, except the fourth modulation, Scheibel discloses that figure 4 can include a fourth (or more) modulation (col. 7 lines 1-10).

Regarding claims 27-28, Scheibel discloses the first wireless protocol and the third wireless communications protocols are different wireless communications protocols (abstract, Figures 1-3, col. 2 lines 19-44, col. 3 lines 42-47, col. 4 lines 23-49, col. 7 lines 1-10).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 16- 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel et al. (U.S. Pat. 6,212,240) in view of Keaney et al. (U.S. Pat. 7,062,703).

Regarding claim 16, Scheibel discloses the first data modulation, the second data modulation, the first acknowledgement modulation, and the second acknowledgement modulation are selected from and different QAM rates and a QPSK rate (col. 3 lines 42-47). However, Scheibel does not disclose 802.11b and OFDM. In the same field of endeavor, however, Keaney discloses the use of 802.11b and OFDM (figures 1, 3, col. 1 lines 12-17, col. 3 lines 35-43, col. 6 lines 6-14, col. 7 line 66 to col. 8 line 11). Therefore it would have been obvious to one skilled in the art at the time of invention was made to use 802.11b and OFDM as taught by Keaney in the system of Scheibel to allow for a more diverse system. Also, OFDM is a robust technique for efficiently transmitting data over a channel. The technique uses a plurality of sub-carrier frequencies (sub-carriers) within a channel bandwidth to transmit data. These sub-carriers are arranged for optimal bandwidth efficiency compared to conventional frequency division multiplexing (FDM) which can waste portions of the channel bandwidth in order to separate and isolate the sub-carrier frequency spectra and thereby avoid intercarrier interference (ICI). OFDM allows resolution and recovery of the information that has been modulated onto each sub-carrier. Also, 802.11b provides high data transfer rate (which provides a higher bandwidth availability) and a frequency jumping technique.

Regarding claim 17, Scheibel discloses at least one of the first data modulation, the second data modulation, the first acknowledgement modulation, and the second acknowledgement modulation is an QAM and at least one of the modulations is an QPSK modulation (col. 3, lines 42-47). However, Scheibel does not disclose 802.11b and OFDM.

In the same field of endeavor, however, Keaney discloses the use of 802.11b and OFDM (figures 1, 3, col. 1 lines 12-17, col. 3 lines 35-43, col. 6 lines 6-14, col. 7 lines 66 to col. 8 line 11).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use 802.11b and OFDM as taught by Keaney in the system of Scheibel to allow for a more diverse system. Also, OFDM is a robust technique for efficiently transmitting data over a channel. The technique uses a plurality of sub-carrier frequencies (sub-carriers) within a channel bandwidth to transmit data. These sub-carriers are arranged for optimal bandwidth efficiency compared to conventional frequency division multiplexing (FDM) which can waste portions of the channel bandwidth in order to separate and isolate the sub-carrier frequency spectra and thereby avoid intercarrier interference (ICI). OFDM allows resolution and recovery of the information that has been modulated onto each sub-carrier. Also, 802.11b provides high data transfer rate (which provides a higher bandwidth availability) and a frequency jumping technique.

Regarding claim 18, Scheibel in view of Keaney discloses all limitations of claim 18 as analyzed in claims 14-17 above.

Regarding claims 19-22, Scheibel in view of Keaney discloses different data, ack rates, data modulation, ack. modulation as shown above. Scheibel in view of Keaney are not explicit about the first data rate and the first ack. rate being different rates selected from the 802.11b rates; the first data modulation and the first acknowledgement modulation are different modulations selected from the 802.11b modulations; the second data rate and the second acknowledgement rate are different rates selected from the OFDM rates; and the second data modulation and the second acknowledgement modulation are different modulations selected from the OFDM modulations.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use have these different rates and modulations of Scheibel and Keaney to be used to have the first data rate and the first ack rate being different rates selected from the 802.11b rates; the first data modulation and the first acknowledgement modulation are different modulations selected from the 802.11b modulations; the second data rate and the second acknowledgement rate are different rates selected from the OFDM rates; and the second data modulation and the second acknowledgement modulation are different modulations selected from the OFDM modulations to provide the advantage of providing a higher bandwidth availability.



Regarding claim 23, Scheibel in view of Keaney discloses the first station comprises a power-constrained device with limited transmission power and the second station comprises a non-power-constrained device (Scheibel: figure 1; Keaney: Figures 1, 3).

6. Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel et al. (US 6212240).

Regarding claims 29-32, Scheibel discloses a first and second station but does not explicitly state that one station has a weaker transmitter or a more sensitive receiver than the other. It would have been obvious to one skilled in the art at the time of invention was made to use a weaker transmitter for power consumption and to use a more sensitive receiver to provide variable data rates as Scheibel does in order to have more efficient use of bandwidth.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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KHAI TRAN  
Primary Examiner  
Art Unit 2611

*KT*  
November 08, 2007